

PX-504A

Model PX-504A

**ATAPI DVD+R/RW AND CD-R/RW DRIVE
INSTALLATION AND USERS MANUAL**



FEBRUARY 2003

Plextor reserves the right to make improvements in the products described in this manual at any time without prior notice.

Plextor makes no representation or warranties with respect to the contents hereof and specifically disclaims any implied warranties of merchantability or fitness for any particular purpose. Further, Plextor Corp. reserves the right to revise this manual and to make changes in its content without obligation to notify any person or organization of such revision or change.

This manual is copyrighted, all rights reserved. It may not be copied, photocopied, translated, or reduced to any electronic medium or machine-readable form without Plextor's prior permission.

Manual copyright ©2003 Plextor Corp. First edition, February 2003.

Licenses and Trademarks

Plextor and the Plextor logo are registered trademarks of Plextor Corp. All other licenses and trademarks are property of their respective owners.

Record Your Serial Number

For future reference, record the serial number and the TLA code (found on your drive's label) in the space provided below.

TLA/Firmware Revision Number

FCC NOTICE

This equipment has been tested and found to comply with the limits for a Subpart B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee interference will not occur in a particular installation. If this equipment causes harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Any changes or modifications should be approved by the party responsible for compliance of FCC Rules; otherwise, the user loses authority to operate the equipment.

LASER INFORMATION

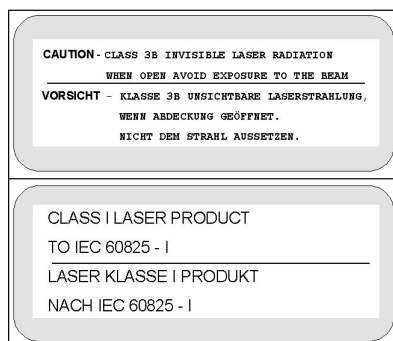
These products have been designed and manufactured according to IEC 60825-1 on the Safety of Laser products. This product comes under “Class 1 Laser Products.”

CAUTION: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

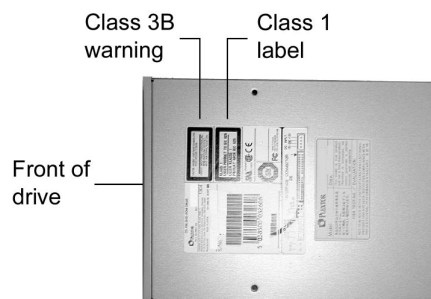
A Laser Caution Label is attached on the top of the internal drive model. The label reads:

“CAUTION – CLASS 3B RADIATION WHEN OPEN. AVOID EXPOSURE TO THE BEAM.”

Detail of Laser Caution Labels



Top View of Drive Showing Location of Laser Caution Labels



The laser beam emitted from the optical pickup is invisible. Accordingly:

- Do not open the optical pickup housing.
- Obtain service only from Plextor-authorized personnel.

CAUTION: To disconnect the drive from an electrical current, pull out the power plug.

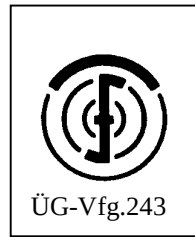
VORSICHT: DIE TRENNUNG VOM NETZ ERFOLGT DURCH ZIEHEN DES NETZSTECKERS.

Zur Einhaltung der Funk-Entstörung von nicht selbständig betreibbaren Hochfrequenzgeräten (periphere Anlagenkomponenten).

Dieses Gerät entspricht als Einzelgerät den Funk-Entstöranforderungen der Postverfügung Nr. 243/1991.

Wird das Gerät innerhalb einer Anlage zusammen mit anderen Geräten betrieben, so muss bei Inanspruchnahme der “Allgemeinen (Betriebs-) genehmigung” nach der BMPT-AmtsblVfg Nr. 243/1991 die gesamte Anlage folgenden Richtlinien entsprechen:

- Grenzwertklasse B der EN55022
- Auflagen nach § 2 der BMPT-AmtsblVfg 243/1991



Dies ist bei der Zusammensetzung einer Anlage (z.B. Computersystem) aus nur einzeln geprüften Geräten nicht immer erfüllt.

Table of Contents

1. Getting Started	1
About this Manual.....	1
Meet Your PX-504A	1
What the PX-504A Does.....	1
Features of the PX-504A.....	2
Minimum Configuration to Use the PX-504A	3
What You Can Do with the PX-504A.....	3
What's In the Box	4
Save Your Box!.....	4
PX-504A Drive Features and Controls	5
Front Panel	5
Rear Panel	6
About Software	7
Precautions.....	7
2. Installing Your PX-504A.....	9
QuickStart Installation—For Experienced PC Users Only	9
Open the Computer and Prepare for Installation.....	9
Determine Your Existing IDE Configuration	10
Set the Drive's Mode Jumper.....	11
Changing the Mode Jumper on Your Internal PX-504A Drive.....	11
Select an IDE Configuration	12
About Cable Select.....	15
Identifying Whether Your System Uses Cable Select.....	16
Locating the Master Position on a Cable Select Cable.....	16
Install the PX-504A Drive	16
Record the Serial Number	16
Mount the Drive in the Computer	16
Using Sound Boards and Audio Cables	21
Choosing and Connecting Audio Cables.....	21
Make Sure the Drive Is Recognized.....	22
3. Using Your PX-504A	23
What Media to Use	23
DVD Media.....	23
CD-ROM Media	23
Tray Loading and Operation	24
Handling DVD and CD Media.....	24
Cleaning Discs	25
Playing DVDs	25
Writing to DVD Media	26
Writing to CD-R and CD-RW Media	26
Advantages of Buffer Underrun Proof Technology	26

4. Maintenance and Troubleshooting 27
 Upgrading Firmware 27
 Troubleshooting 27
Appendix A: PX-504A Specifications 29
Appendix B: Technical Support..... 35
 How to Contact Plextor Technical Support..... 35
 Before You E-mail/Log On/FAX/Call for Support..... 36
 Returns 36
 Contacting Plextor’s RMA Department 37
 Packing Your Drive..... 37
 Shipping Your Drive to Plextor..... 37
Appendix C: Warranty 39
 If You’re Outside the U.S. or Canada 40
Index..... 41

1. Getting Started

Congratulations! Thank you for purchasing the Plextor® PX-504A a reliable, high-performance recordable DVD and CD writer, rewriter, and player. We appreciate the confidence you have shown in us. Our goal is to put you—and keep you—on the leading edge of DVD and CD technology.

About this Manual

Please read this manual carefully and keep it handy for easy reference. Use the manual for installation, operation and troubleshooting. If your drive needs service, see your dealer or call Plextor's Technical Support Department.

In this manual you should find all the information you need to successfully install, operate and troubleshoot your drive. If you run into a problem that doesn't seem to be covered, however, please contact us. (See "Appendix B: Technical Support" for the different ways you can reach us.) You will be connected to our friendly, helpful band of tech support engineers. What might seem like an uncooperative drive to you could very well be a 30-second fix to them. But we will never know unless you contact us.

Meet Your PX-504A

The PX-504A is a recordable DVD/CD-ReWritable drive that provides professional quality DVD and CD performance for writing, rewriting and reading.

What the PX-504A Does

For DVDs, the PX-504A:

- Writes DVD+R (recordable DVD) media at up to 4X speed.
- Writes DVD+RW (re-writable DVD) media at up to 2.4X speed.
- Supports DVD+VR real time editing.
- Reads DVD discs at up to 12X. (Fixed at 2-5X for video.)
- Supports DVD+RW background format.

For CDs, the PX-504A:

- Writes to CD-R (recordable CD) media at up to 16X speed.
- Writes to CD-RW (re-writable CD) media at up to 10X speed.
- Reads all CD-ROM and CD-R data media at a maximum of 40X speed.
- Reads CD-RW and CD-DA (audio) media at up to 32X speed.

Features of the PX-504A

- *ATAPI interface*: Easily installs in virtually any PC with an E-IDE ATAPI interface.
- *High speed transfers*: Supports PIO Mode 4, DMA Mode 2, and Ultra DMA33.
- *MMC compliance*: Supports the MMC-3 command set.
- *Flash memory*: Allows upgrading the PX-504A to the latest firmware revision (available from the Plextor web site) without opening the computer or physically accessing the drive.
- *Black tray*: Reduces the effect of optical distortion on the laser beam, enhancing read quality.
- *Plug and Play*: Supports Windows Plug and Play.

DVD Features

- *Lossless linking*: Allows DVD+RW discs to be edited and still play on DVD-ROM players.
- *Wide DVD+R and DVD+RW media compatibility*: Compatible with a wide range of DVD+R and DVD+RW media.
- *DVD+VR*: Supports DVD+VR format.
- *Multiple DVD types*: Supports DVD-ROM, DVD-Video, multi-border for DVD-RW read, multi-session for DVD+R/RW read and write.
- *Versatile recording modes*: Including sequential write, random access write, disc at once.

CD-R and CD-RW Features

- *Variety of recording modes*: Supports track-at-once, disc-at-once, session-at-once, and multi-session, as well as variable and fixed packet writing.
- *Buffer-Underrun-Proof technology*: With 2-megabyte buffer, eliminates buffer underrun errors, so you can safely use your computer for other tasks while you're writing to a CD-R or CD-RW disc.
- *Wide compatibility*: Wide CD-R and CD-RW media compatibility.
- *Orange Book compatibility*: Compatible with Orange Book, Parts II and III.
- *UDF support*: UDF file system implemented through packet writing.
- *OPC and ROPC*: Optimum Power Control and Running Optimum Power Control, which adjust the laser power for the optimum write strategy.

Minimum Configuration to Use the PX-504A

- **Computer:** Pentium III 500-MHz CPU or faster.
- **Minimum RAM:** 128 MB.
- **Hard disk size:** To write to a CD in image mode (that is, to write an image of a CD to your hard disk), you need 1 GB of free space. For a DVD, 6 GB of free space is recommended. (For more accurate guidelines, see the help files or documentation for the recording software you're using.)
- **Operating System:** Windows XP, Me, 2000, 98, 98SE.

What You Can Do with the PX-504A

Just look at some of the things you can do with your PX-504A:

- Record slide shows or digital video onto DVD+R and DVD+RW discs.
- Play DVD+R, DVD+RW, DVD-R, and DVD-RW discs.
- Record data or audio onto writable or rewritable CD media.
- Play music CDs.
- Save photos and other images on rewritable or writable CDs.
- Create a CD or DVD “sneakernet” to share information with colleagues—just use software such as Roxio’s DirectCD to drag and drop files onto DVD+R, DVD+RW, CD-R or CD-RW media, then continue adding files and sharing the same disc.
- Archive images and video to DVD or CD.
- Master new software programs on DVD or CD.

What's In the Box

What you find in your Plextor box depends on what the company that sold you the box put in—or took out—while the Plextor drive was in their possession.

Plextor currently sells its drive in this configuration:

- PX-504A DVD+R/RW and CD-R/RW drive
- 40-pin IDE ribbon cable
- 4 mounting screws
- Extra jumper
- Emergency eject tool
- 1 piece of approved CD-R media
- 1 piece of approved DVD+R media
- Plextor CD with bundled software for writing DVDs and CDs
- *PX-504A Installation and Users Guide*

If the security sticker on top of your box is cut, there may be a good reason: for example, a dealer may have added other components or software. Carefully check the contents to ensure nothing has been removed. If something is missing, contact the party from whom you purchased the box for an explanation.

NOTE: This applies to the Plextor retail box. Your drive may have been shipped in a different box with other contents, depending on whom you purchased the drive from and what they included inside the box.

Save Your Box!

Be sure to save the box after you have installed your drive. The box and its packaging material were designed and drop tested to ensure you can endure rough treatment and still arrive in working order. If you have to ship your drive back to Plextor, you'll want to send it in the original box. (For more details about returning your drive to Plextor, see page 36.)

If your drive came pre-installed, some or all of the items above may have been installed and may not be separately available. See the Plextor web site for locations to purchase additional or replacement accessories.

PX-504A Drive Features and Controls

Before proceeding, become familiar with the controls and features of your Plextor drive. Match the parts of your drive to the illustrations below.

Front Panel

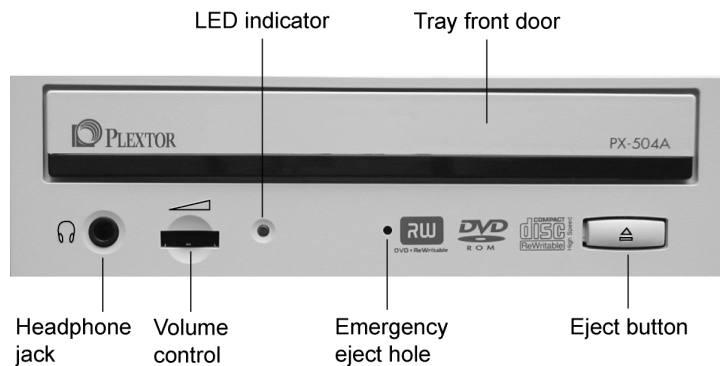


Figure 1: Front Panel of the PX-504A Drive

- **LED indicator:** Illuminated green for disc loading, ejecting, initializing, playing, and writing. Also illuminated green when Buffer Underrun-Proof technology is operational.
- **Tray front door:** Attached to tray drawer.
- **Headphone jack:** Stereo mini-jack for headphones and powered speakers.
- **Volume control:** Controls volume of headphone jack.

NOTE: The volume control on the front panel of your drive adjusts only the sound level of the headphone jack. It has no impact on the volume level of the rear panel audio outputs.

- **Emergency eject hole:** If the automatic eject button does not work, insert the emergency eject tool, paper clip, or other thin, rigid object in this hole to eject tray. Turn OFF power before using this feature.
- **Eject button:** Push once to eject tray. Push again to insert the tray back into the PX-504A. To prevent wear on the drive, always use the eject button to insert the tray.

Rear Panel

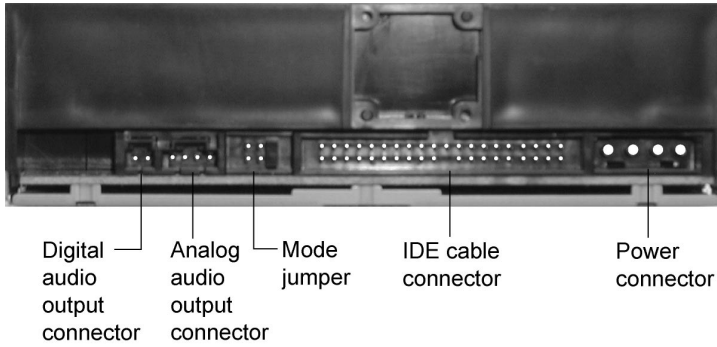


Figure 2: Rear Panel of the Internal Drive

- **Digital audio output connector:** Outputs digital stereo signal. For connecting to a sound board that supports Sony/Philips Digital Interface (SPDIF) or Digital-In.
- **Analog audio output connector:** Outputs analog stereo signal. Use to connect to sound board or audio amplifier. Use standard MPC-3 type, 4-pin connector.
- **Mode jumper:** Use the mode jumper to select operation as an IDE master or slave, or for cable select. In general, leave this jumper at its factory setting, which is master.
- **IDE cable connector:** Connects to IDE (ATAPI) interface using 40-pin IDE flat ribbon cable.
- **Power connector:** Connects to your computer's power supply to provide DC +5 volts and +12 volts to the PX-504A.

About Software

In order to record on DVD+R, DVD+RW, CD-R and CD-RW discs you will need to have mastering, packet writing, or duplication software installed on your computer system. If you purchased a retail kit from Plextor, you'll get software packages that include such software.

You can use Roxio's Easy CD Creator DVD Edition to burn both DVDs and CDs. The software lets you burn and share anything on CD or DVD, including music, photos, and videos. You can also back up your critical data to a CD or DVD.

One component of Easy CD Creator is DirectCD, which makes the Plextor PX 504A drive as easy to use as a disk drive. You can drag and drop files, rename files, delete files, and create new directories right on the recordable CD or DVD disc. You can even save files directly from your word processing software, spreadsheet, or other application directly to the disc. DirectCD takes advantage of the PX-504A's ability to write small packets of data to the disc, providing fast, uninterrupted data flow and optimum use of disc space.

For more information about Easy CD Creator, install this application and examine the help files.

For details on other software packages that are available for writing to DVDs or CDs, please visit the web sites of the companies whose software you are interested in, refer to their user's manuals, or look at the help option within the software. A list of various software packages that you can use with your Plextor drive can be found in the Support/Compatibility section of www.plextor.com.

Precautions

Like the rest of your computer system, your PX-504A requires reasonable care in its installation and use.

- Keep the area around your drive clean from dust, smoke, and other contaminants.
- Do not allow moisture or liquids, including water or cleaning fluids, to touch the drive. Thinner, benzene, or alcohol-based solvents can mar your drive's surface.
- Do not drop or jolt the drive.
- Do not attempt to open the drive and service it yourself. Removing the cover may expose you to harmful electrical voltages or the laser beam. For your safety, entrust service to Plextor-authorized service personnel only.

- Keep your DVDs and CDs free of dirt or other contaminants, by storing them in jewel cases. Use only industry-standard discs. Do not insert dirty, warped, poorly balanced, or cracked discs into the drive.
- Do not clean discs using a circular motion. Instead, using a soft, dry cloth, wipe gently in a radial motion; start at the center of the disc and proceed to the outer edge.

2. Installing Your PX-504A

This chapter explains how to physically install your PX-504A in your computer. The steps you'll need to do are as follows:

1. Turn OFF your computer system.
2. Set the jumpers for your new PX-504A drive, if necessary.
3. Mount the drive into an available drive bay inside the computer system.
4. Make all necessary cabling connections: IDE cable, power cable, and audio cable.
5. Turn your computer system ON.

The following pages give more details for this procedure.

Open the Computer and Prepare for Installation

To determine whether your PX-504A will be a Master or a Slave, open your computer and examine the IDE connections to the motherboard.

To open the computer:

1. Before proceeding, make sure the power to your computer and any external peripherals is OFF and your computer is UNPLUGGED from its power source.
2. Remove your computer's cover, following the directions provided by your computer's manufacturer. Typically, this involves loosening or removing several screws on the back panel of your computer and sliding off the cover. See Figure 3 for an example.

QuickStart Installation—For Experienced PC Users Only

If you've installed computer peripherals before, you're in luck with the PX-504A drive. Use this QuickStart installation to get up and running quickly.

Typical Scenario 1: You have a PC with an IDE interface installed, you have Windows 98, 98SE, Me, XP, or 2000, and you have nothing installed on the secondary IDE port.

What to do: Leave the PX-504A's jumper set to Master, attach it to the secondary IDE port, and go. Windows will recognize the drive automatically.

Typical Scenario 2: You have a PC with an IDE interface installed, you have Windows 98, 98SE, Me, XP, or 2000, the primary IDE port already has two devices connected and you have a CD-ROM installed on the secondary IDE port.

What to do: Change the CD-ROM to Slave, leave the PX-504A's jumper set to Master and attach the PX-504A to the secondary IDE port. Windows recognizes the new drive automatically.

If neither of these situations applies to you, or you're not comfortable with IDE installation, read the rest of this chapter for more detailed installation instructions.

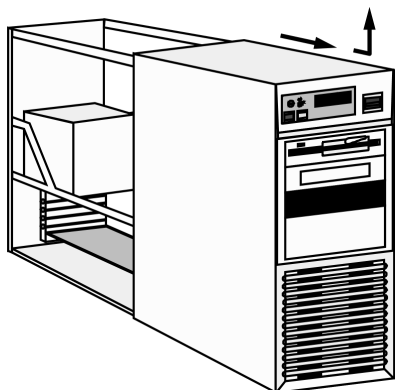


Figure 3: Removing a Typical Computer's Cover

Determine Your Existing IDE Configuration

With your computer open, determine the existing IDE configuration. You can do this by looking at the 40-pin IDE ribbon cable (or cables—there may be two) and seeing what is connected to them.

One end of the IDE cable is connected to a port on the computer's motherboard; and the other end is connected to one or two peripheral devices (such as a hard disk or CD-ROM drive). If there are two devices, one is configured as *Master* and the other the *Slave*, as indicated by the position of jumpers on the back of the drive.

In the case of the Cable Select bus, both devices must be jumpered as *Cable Select*. This configuration requires a special Cable Select cable.

If there are two IDE ports, one is for the *primary* IDE bus and the other is for the *secondary* bus.

Before you install your PX-504A, your computer's IDE configuration is usually one of the following:

- **Configuration A:** Hard disks connected as Master and Slave devices on primary IDE port; CD-ROM drive connected as the Master device on secondary IDE port.
- **Configuration B:** Hard disk connected as Master device and DVD or CD-ROM drive connected as Slave on the primary IDE port; nothing connected to secondary IDE port.
- **Configuration C:** Hard disk connected as Master device on primary IDE port; nothing connected to secondary IDE port.
- **Configuration D:** System uses special "Cable Select" cables; all devices are jumpered for Cable Select.

Set the Drive's Mode Jumper

You specify your drive's Master, Slave, or Cable Select setting before installing it. You do this by changing the position of a jumper on the mode jumper block at the rear of the drive.

Your drive ships from our factory with its mode jumper set to operate the PX-504A as a Master. This will work in most custom system configurations. If your computer is from a large OEM system manufacturer such as IBM, Hewlett Packard, Gateway or Compaq, you will need to pay particular attention to whether the computer uses the Cable Select scheme.

Changing the Mode Jumper on Your Internal PX-504A Drive

The drive arrives from the factory with its mode jumper set to Master. (A function is ON if the jumper is installed and OFF if the jumper is removed.)

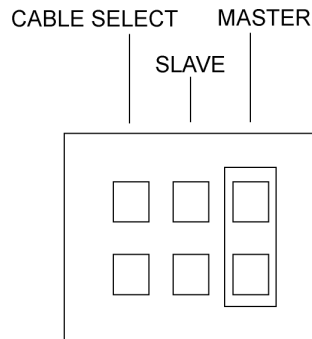


Figure 4: Factory Settings for Mode Jumper at the Rear of the Drive

Changing to a Master, Slave, or Cable Select

The Master/Slave/Cable Select setting for the drive is determined by the mode jumper. The jumper is placed over one of the sets of mode pins. To change the drive from Master to Slave or to Cable Select, you must move the jumper.

For example, to change the drive to be a Slave, move the jumper to the right set of mode pins, leaving the other pins uncovered. To change the drive for Cable Select, move the jumper to the left set of mode pins.

Note that if any device is jumpered as Cable Select, then *both* devices connected to that cable must be jumpered as Cable Select. In addition, the cable you use must be a special Cable Select cable.

Changing Jumper Settings

- To remove a jumper, pull it off with your fingers or a pair of needle-nose pliers.
- To install a jumper, push it onto the jumper pins.

CAUTION: Ensure power to the drive is OFF before installing or removing a jumper.

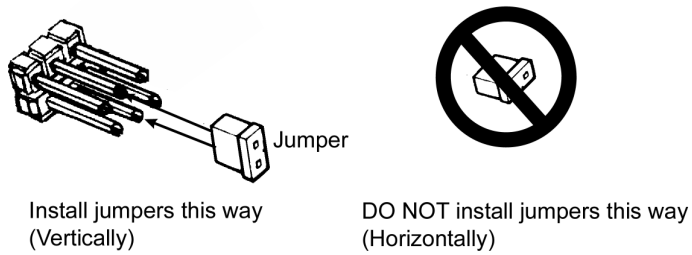


Figure 5: Install the Mode Jumper Across Vertical Pairs of Pins

CAUTION: Install the mode jumper across the pins as shown (vertically). Do not connect one pin switch to another by installing the jumper lengthwise (horizontally). Doing so could result in damage to the drive.

Select an IDE Configuration

Set the jumper according to the desired configuration, as shown in the tables and illustrations on the next few pages.

NOTE: For best CD-RW performance, try to connect the PX-504A to the IDE port that is not connected to the hard disk drive or to a CD-ROM drive. In most cases, this will be the secondary IDE port.

NOTE: For best results, set the PX-504A to be the Master, if possible.

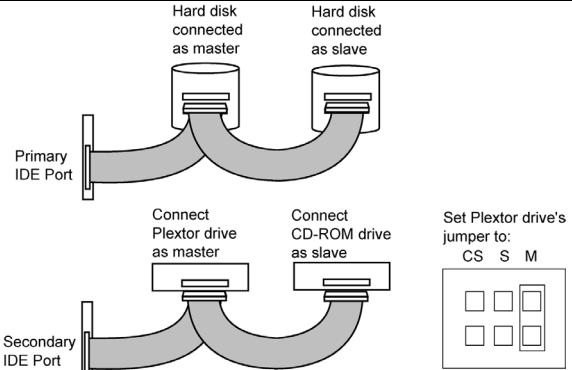
	Before PX-504A Installation	How to Install the PX-504A									
A	Hard disks connected as Master and Slave devices on primary IDE port; CD-ROM connected as Master device on secondary IDE port.	Remove the CD-ROM drive, change it to Slave, and re-connect it to the secondary IDE port. Set the mode jumper to Master, and connect the PX-504A as Master device to the secondary IDE port.									
	 Hard disk connected as master Hard disk connected as slave Primary IDE Port Connect Plector drive as master Connect CD-ROM drive as slave Secondary IDE Port Set Plector drive's jumper to: <table border="1"> <thead> <tr> <th>CS</th> <th>S</th> <th>M</th> </tr> </thead> <tbody> <tr> <td>☐</td> <td>☐</td> <td>☒</td> </tr> <tr> <td>☐</td> <td>☐</td> <td>☐</td> </tr> </tbody> </table>		CS	S	M	☐	☐	☒	☐	☐	☐
CS	S	M									
☐	☐	☒									
☐	☐	☐									
	NOTE: This configuration can make it very difficult to write from the CD-ROM to the PX-504A at maximum rated speed using “on-the-fly” copying. System configuration and performance will make a big difference. Depending on how fast the CD-ROM drive can stream data to the PX-504A, it may not be fast enough to keep the buffer full. In this case, the buffer may become empty and a buffer underrun error may happen. However, because it is equipped with Buffer Underrun Proof technology, your PX-504A can still make successful copies if you use software that supports this feature. (All software shipped with the Plector PX-504A drive retail kits supports Buffer Underrun Proof technology.) If you still have problems writing with this configuration, use the image writing method (that is, write an image to your hard drive, then write that image onto the CD-R or CD-RW media), or record at a lower speed for best results. We also recommend that DMA be enabled on your computer, if your system supports it.										

Figure 6. How to Install the PX-504A If Your Computer Is Originally Set Up in Configuration A

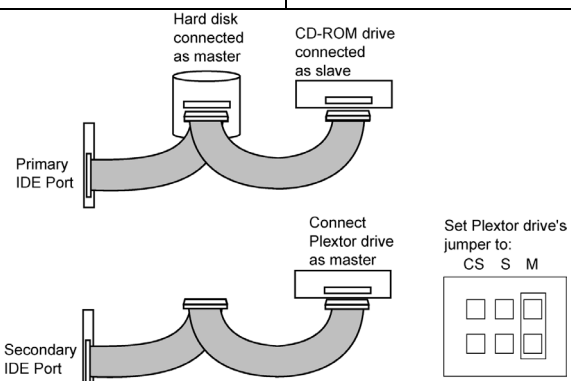
Before PX-504A Installation		How to Install the PX-504A	
B	Hard disk connected as Master device, and CD-ROM or DVD-ROM drive connected as Slave on the primary IDE port; nothing connected to secondary IDE port.	Set the mode jumper to Master, and connect the PX-504A as Master to secondary IDE port.	
		 The diagram illustrates the setup for Configuration B. It shows two IDE ports: Primary IDE Port and Secondary IDE Port. On the Primary IDE Port, a Hard disk is connected as master and a CD-ROM drive is connected as slave. On the Secondary IDE Port, a Plextor drive is connected as master. To the right, a jumper block is shown with three positions: CS, S, and M. The M position is selected, indicating the drive should be set to Master.	

Figure 7. How to Install the PX-504A If Your Computer Is Originally Set Up in Configuration B

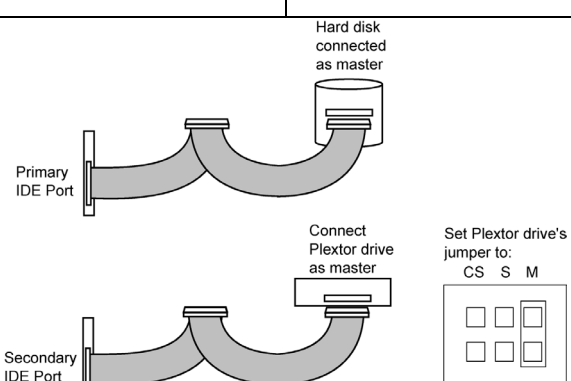
Before PX-504A Installation		How to Install the PX-504A	
C	Hard disk connected as Master device on primary IDE port; nothing connected to secondary IDE port.	Set the mode jumper to Master, and connect the PX-504A as Master to secondary IDE port.	
		 The diagram illustrates the setup for Configuration C. It shows two IDE ports: Primary IDE Port and Secondary IDE Port. On the Primary IDE Port, a Hard disk is connected as master. On the Secondary IDE Port, a Plextor drive is connected as master. To the right, a jumper block is shown with three positions: CS, S, and M. The M position is selected, indicating the drive should be set to Master.	

Figure 8. How to Install the PX-504A If Your Computer Is Originally Set Up in Configuration C

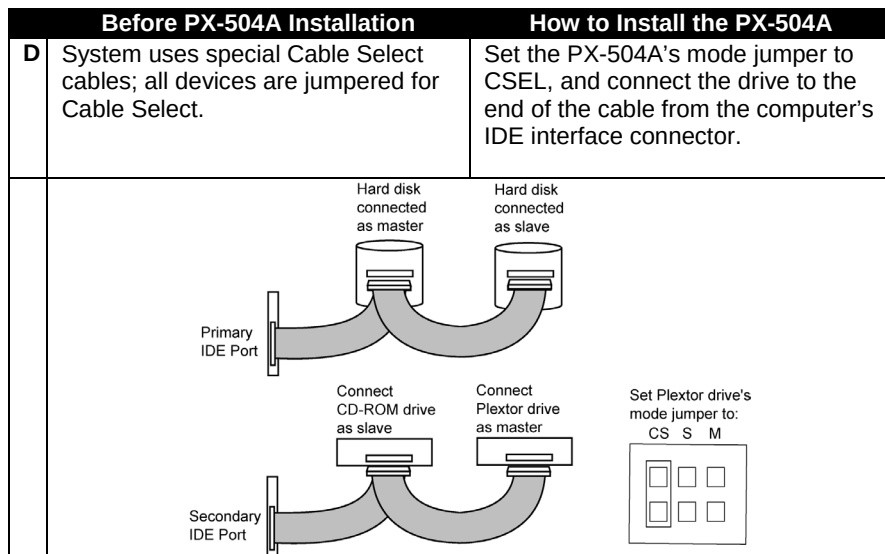


Figure 9: How to Install the PX-504A If Your Computer Is Originally Set Up in Configuration D

About Cable Select

The Cable Select jumper position sets the PX-504A drive to use the CSEL signal from the IDE interface for configuration purposes. This signal automatically selects the correct Master/Slave setting for the drive.

To use the host interface CSEL signal for configuration, set the Plextor drive's jumper to CABLE SELECT:

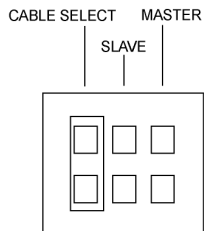


Figure 10: Configuring the PX-504A Drive for Cable Select

To use CSEL, you must have:

- A computer that supports CSEL.
- A special CSEL (Cable Select) cable for IDE.

NOTE: The IDE cable supplied by Plextor does *not* support CSEL. To use CSEL and Cable Select, you'll have to purchase a CSEL cable, or use one that may be supplied with your CSEL-configured system.

Identifying Whether Your System Uses Cable Select

If you are unsure whether or not your system has a Cable Select cable installed, either look at the cable or look at the jumpers on the CD-ROM drive. If any device is jumpered as Cable Select, then both devices on that cable should be jumpered the same.

Locating the Master Position on a Cable Select Cable

With Cable Select, Master and Slave are determined not by jumpers, but by the connectors on the Cable Select cable. The connectors are identified as Master or Slave.

Install the PX-504A Drive

Before proceeding to install the PX-504A drive in your personal computer, double-check your jumper setting.

Record the Serial Number

Record the serial number and TLA code of your drive on the inside front cover of this manual.

Mount the Drive in the Computer

You can mount your internal drive in any available bay. You must remove the small panel that covers the bay that you want to use.

NOTE: The drive can be mounted horizontally or vertically.

If you don't have an empty bay, remove the existing IDE CD-ROM drive and install the PX-504A.

You must make a minimum of two cable connections to your PX-504A. The two cable connections that you must make are:

- IDE cable
- Power cable

There are also two optional cable connections:

- An analog audio cable connection if you are using a sound board in your computer and plan to connect the PX-504A's audio output to the audio connector on the sound board.
- A digital audio cable connection if the sound board is equipped with SPDIF or Digital-In and you wish to use the digital audio output from your PX-504A.

Do You Need Another IDE Ribbon Cable?

An IDE cable is a standard 40-pin flat-ribbon cable, usually with three connectors. One end connects to the IDE port on your computer's motherboard, and the other two connectors are free for attaching peripherals such as a hard disk, CD-ROM drive, or a PX-504A drive.

You may need to install another IDE ribbon cable in your computer. You can use the extra IDE cable supplied with your Plextor drive. (Just remember, if you want to use CSEL and Cable Select settings, this Plextor-supplied cable won't work—you'll have to purchase a special cable for Cable Select.)

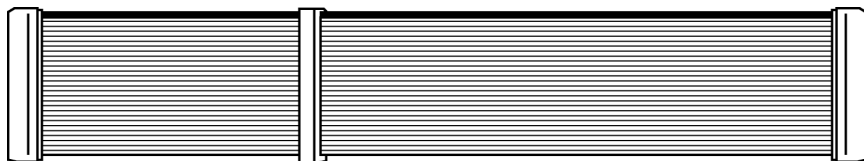


Figure 11: Standard IDE Ribbon Cable

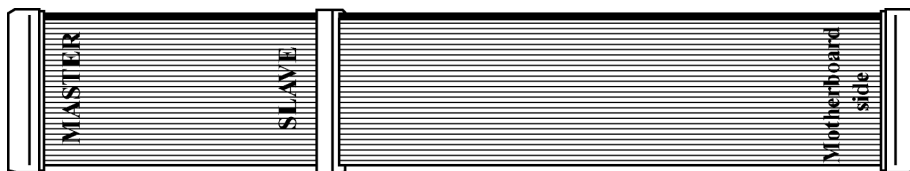


Figure 12: Ribbon Cable for Cable Select (Not Supplied by Plextor)

CAUTION: The length of any IDE cable cannot exceed 18 inches.

Do You Need a Power Cable?

In most computers, you will find extra power connectors in the computer ready for your use. When you open the computer, check the cable running from your power supply to your hard disk and see if it has extra connectors on it. If so, you can plug one of these into the power connector found on the rear panel of the PX-504A.

If you do not find any additional connectors (either because they were not supplied or they are all in use), you will have to buy a "splitter" or a "Y-connector." These can also be found at most retail and mail-order computer stores.

To mount the PX-504A drive:

1. Make sure the power to your computer and any external peripherals is turned OFF and your computer is UNPLUGGED from its power source.
2. If you haven't already removed the cover from your computer, remove it now, following the directions provided by your computer's manufacturer. Typically, this involves loosening or removing several screws on the back panel of your computer and sliding off the cover. See Figure 3 for details.
3. Remove the cover panel from the bay that will hold the drive. To remove the cover panel, pop it out by pressing outward lightly. (In some older computers, you may have to remove screws that hold the panel in place.)

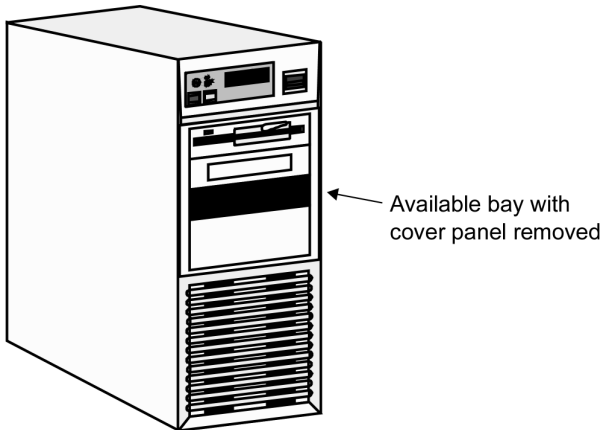


Figure 13: Removing the Cover Panel from a Bay

4. Determine if you must install mounting rails on the sides of your drive. To do so, insert the drive into the open bay. If the drive fits tightly with little or no clearance on either side of the drive, you will not have to use mounting rails. The drive can be mounted directly into your computer. Go to step 6.

NOTE: Plextor does not provide rails. If you need rails, you can obtain them from the computer manufacturer or from a computer supply retail or mail-order store.

5. If you must use mounting rails, fasten the rails to the lower pair of holes as shown in Figure 14. (In some instances, you may need to fasten the rails to the upper set of holes.) After fastening the rails, check their positioning by sliding the drive into the bay before you mount the drive or connect any cables.

Be sure not to mistake the inner and outer face of the rail when attaching. Typically, the smooth side of the rail faces away from the drive's chassis.

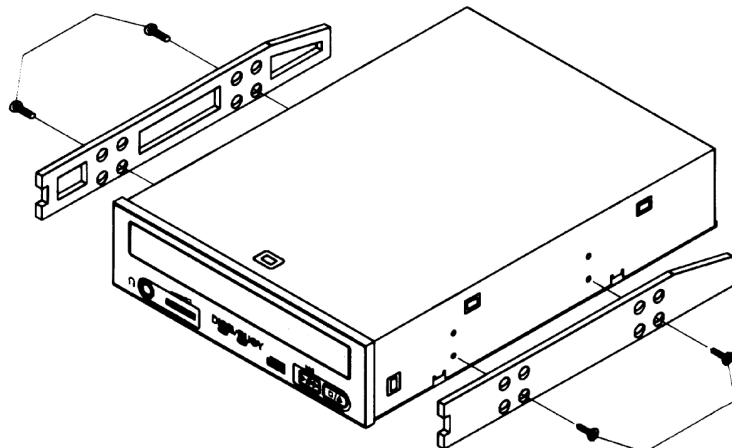
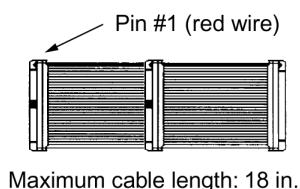


Figure 14: Installing Mounting Rails (if Needed)

6. Plug one connector of the IDE cable into the IDE connector on the rear panel of the drive before you insert the drive into your computer. Then thread the cable through the front of the open bay and back toward the motherboard. The drive should slide smoothly into the bay. If it does not, check for obstructions in the bay and ensure the side rails are attached properly.
7. If not already connected, attach the other end of the IDE ribbon cable to the connector on the motherboard.



Connect one end of the cable to the motherboard and the other end to a drive.

If your Plextor drive is the only drive on the cable, attach it at the end of the cable, leaving the center connector free.

Figure 15: Connecting the IDE Ribbon Cable

CAUTION: With some IDE ribbon cables, it is easy to accidentally plug your IDE cable upside down into both your drive and the motherboard. Be sure you match the red stripe along one side of the IDE cable to Pin 1 on the motherboard and Pin 1 on the drive. (Pin 1 on the drive is closest to the power connector.) Note that each connector on most ribbon cables also has a “key” in the middle. This key should fit into a slot in the middle of each connector of the motherboard, your PX-504A drive, and any other internal IDE peripherals.

8. Double-check your work. You must ensure the side of the IDE cable with the red stripe is matched to Pin 1 on the interface board and on the drive.

CAUTION: In the case of only one IDE device, you must make certain that one end of the cable is always connected to the IDE connector on the motherboard. The other end of the connector must be connected to a device. The end connector of the cable should never be left unconnected.

9. Connect a power cable from the computer to the power connector (DC INPUT) of the drive. In most computers, you will find free power connectors that are ready for your use.

CAUTION: The power connector on the cable and the receptacle on the drive are keyed. Do not force the power connector into the drive, or the drive and/or the computer may be damaged.

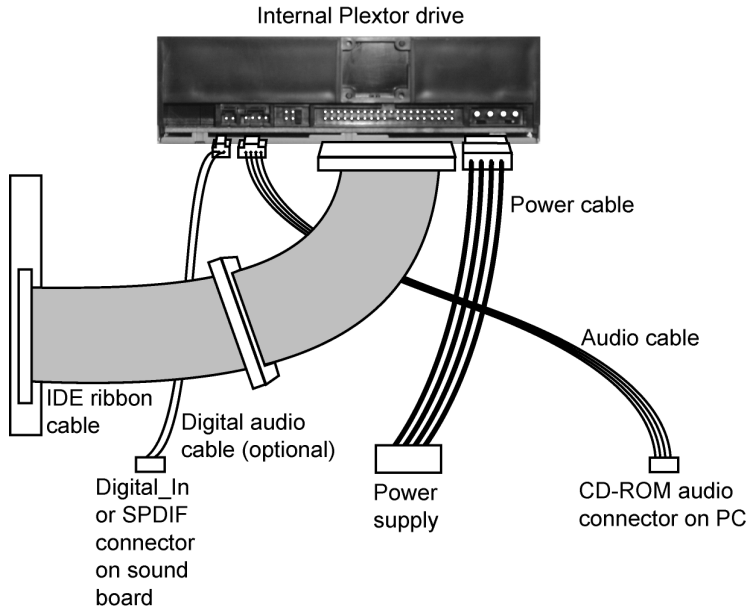


Figure 16: Cable Connections for an Internal IDE Drive

10. Connect the analog audio cable if you want to use a sound board in your system. This cable runs from the four-pin analog audio output connector on the rear panel of your drive to the CD-ROM audio connector on the PC or your sound board. See “Using Sound Boards and Audio Cables” below for more information about audio cables.

11. Connect a digital audio cable if your sound board is equipped with the Sony/Philips Digital Interface (SPDIF) or Digital-In, and you wish to use the digital audio output from your PX-504A. This cable runs from the digital audio output connector pins on the PX-504A back panel to the sound board. (This cable is not supplied by Plextor.)
12. Mount the PX-504A drive in the computer using the four screws that were supplied with your drive. Use only these screws.

CAUTION: Do not mount your drive in your computer using screws other than those supplied by Plextor. You may damage the drive if you insert screws that are too long or the wrong thread type.

Using Sound Boards and Audio Cables

Whichever category your sound board falls into, you will find that the best source of information about installing the sound board in your computer is the board's manual. Once you have successfully installed the sound board in your computer, you can continue below for a description of the different cable connections that need to be made.

Choosing and Connecting Audio Cables

If you do need audio cables, you will have to purchase them. Refer to the table below. A list of several vendors who offer audio cables is available on Plextor's web site.

Audio Connection	Cable Required	How to Connect It
MPC audio source	MPC-compliant audio cable	Connect to MPC audio source, and to analog audio output connector at the rear of the Plextor drive.
Sound Blaster or compatible sound board	Sound Blaster-compatible analog audio cable	Connect to Sound Blaster-compatible audio board and to analog audio output connector at the rear of the Plextor drive.
Digital audio output	Cable that's compatible with SPDIF or Digital-In.	Connect to SPDIF or Digital-In connector on sound board (if sound board supports digital audio) and to digital audio output connector at the rear of the Plextor drive.

Make Sure the Drive Is Recognized

After installation, make sure the PX-504A drive and other IDE peripherals are recognized by your computer. To check whether they are recognized:

To see if the drive is recognized in Windows:

1. Turn the computer ON. After the computer boots up, you should see the Windows display.
2. Open Windows Explorer or My Computer and ensure there is an icon for the Plextor drive, the hard disk, and other CD-ROM drives, if present. The may be D: or E: or another designator.
3. If the PX-504A drive is not recognized in Windows, reboot the computer and use your computer's setup program to program the BIOS to recognize it.

NOTE: Refer to the computer's documentation for information on how to run the motherboard BIOS setup program.

4. Use the motherboard BIOS setup program to set up IDE Master and Slave designations, as needed for your configuration, on the primary or secondary IDE bus. If the IDE interface is disabled on your computer, you will need to enable it. If a Master or Slave device is set to "disable" or "none" or a similar designation, change it as appropriate to "enable" or "auto" (or something similar, depending on your setup program).
5. Save and exit your CMOS setup to restart your computer with the new settings.
6. In Windows 98, 98SE, or Me, once the system comes up click the Start button, then Settings, then Control Panel, then double-click on System icon, then click on Device Manager tab. Click the + sign next to the CD-ROM heading and look at the "Plextor DVDR PX-504A" entry underneath.
-or-
In Windows 2000 or XP, right-click on the My Computer icon and select Properties. Click on the Hardware tab, then click on the Device Manager button. Click the + sign next to the CD-ROM heading and look at the "Plextor DVDR PX-504A" entry underneath.

If you do not see this drive listed as one of the devices, or if it has a yellow diamond with an exclamation point (!), contact Plextor Technical Support. (See "Appendix B: Technical Support" for the different ways you can contact us.)

3. Using Your PX-504A

This chapter explains how to use your drive and how to load, handle and care for your CDs.

What Media to Use

Use the right media! Your PX-504A drive's capabilities change depending on which type of compact disc you use.

DVD Media

DVD recordable media is available in two different, non-compatible formats:

- DVD+R or DVD+RW
- DVD-R and DVD-RW

The distinction is important. Although the PX-504A can *read* either media format, the drive will only *write* to the “plus” media; that is, to discs marked as “DVD+R” or “DVD+RW.”

To sum up, the PX-504A currently supports these types of DVD media:

- **Digital Video Discs:** You can immediately play pre-recorded DVD discs, including movies and other DVDs.
- **DVD+R:** Recordable DVD. You can record on these discs, but only once. You can also read them.
- **DVD+RW:** ReWritable DVD. You can record and re-record (up to 1,000 times) on these discs. You can also read them.
- **DVD-R, DVD-RW:** You can only read discs in these formats. You cannot write to these discs using the PX-504A.

CD-ROM Media

In addition, the PX-504A supports these types of CD media:

- **CD-ROM:** You can immediately play or read prerecorded compact discs, such as audio CDs and data discs.
- **CD-R:** Recordable CD. You can record on these discs, but only once. You can also read them.
- **CD-RW:** High-Speed, and Normal-Speed ReWritable CD. These discs support recording and re-recording (up to 1,000 times). You can also read them.

See “Recommended Media” on page 29 for a list of Plextor-approved media at the time this manual was printed, and see the Plextor web site at <http://www.plextor.com> for an updated list.

Tray Loading and Operation

To load and unload the tray:

1. While the drive is powered up, push the eject button on the front panel. The tray drawer slides out in 3–4 seconds.

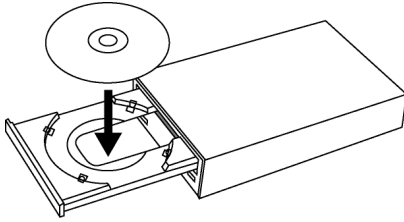


Figure 17: Loading the Tray

2. Lay a CD or DVD disc in the depression in the tray, label side up.
3. Press the eject button again and the tray will slide shut within seconds.

NOTE: Always use the eject button to close the tray in a smooth and secure manner. Closing the tray by pressing the front of the drawer by hand is not recommended and risks damage or premature wearing of the mechanism and your DVDs and CDs.

Handling DVD and CD Media

Take care when handling blank CD and DVD media. Dust, scratches, and fingerprints on either side of the disc can cause write errors during recording. When picking up or holding blank media you can either place your fingers along the outer edge of the disc, or place one finger through the center hole and one finger on the outer edge. Once you have finished creating a disc, label it by writing on the top using permanent ink.

CAUTION: We recommend using a “non-toxic” marker, such as a Sharpie® pen, that conforms to the ASTM D-4236 standard. Some permanent markers will damage the media. Also, do not press too hard when writing on the disc.

NOTE: We do not recommend placing self-sticking CD-R labels on the disc. The weight of the label may unbalance the disc and cause write errors during recording or read errors during reading. Also, attempting to remove the label may permanently damage the disc.

Cleaning Discs

For proper read and write performance, your DVD+R, DVD+RW, CD-R, CD-RW, and CD-ROM discs must be clean. Trying to record on a dirty disc may result in a failed session and ruin the disc.

To clean the disc, wipe the disc using a clean, soft cotton cloth to remove surface dirt such as fingerprints. Use a straight-line motion, wiping from the center out. Do not wipe the disc in a circular motion.

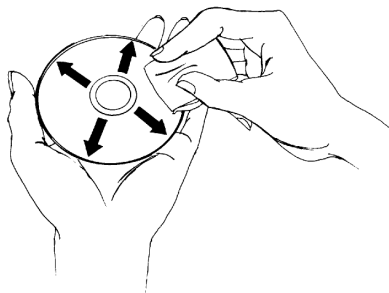


Figure 18: Wipe the Disc from the Center Outward

HINT: Keep your frequently used discs in jewel cases at all times to prevent them from becoming dirty or damaged.

Playing DVDs

To play a digital video disc, insert the DVD as you would any other disc. The drive plays both single-layer and dual-layer discs.

The first time: A code on each DVD allows it to be played only on players designed for a certain regional area, such as North America, Europe, etc. When the drive ships there is no region code set. The first time a DVD that has a region setting is inserted into the drive, the action sets the drive to that region code.

If you later insert a DVD with a different region code, you are prompted to either accept changing the region code or not. If you don't accept the change, then that DVD will not play. If you do accept the change, then the region code setting is changed. But remember: you can change the drive's region code only 5 times. After that, you can't change it any more.

Writing to DVD Media

You need special software that supports writing to DVD+R and DVD+RW discs. The Roxio Easy CD Creator DVD Edition and DirectCD software on the CD that accompanies your PX-504A contains this software.

NOTE: The PX-504A does not write to DVD-R or DVD-RW media. However, the drive can read these discs.

Writing to CD-R and CD-RW Media

In conjunction with your drive, mastering and packet writing software such as Easy CD Creator and DirectCD allow you to write audio, video, data, or other information to writable (CD-R) or rewritable (CD-RW) media. The PX-504A writes to high-speed CD-RW media, as well as to normal speed CD-RW media.

Drives such as the PX-504A that are capable of writing to high-speed CD-RW media are identified by a “Compact Disc ReWritable High Speed” logo.



Advantages of Buffer Underrun Proof Technology

The PX-504A incorporates Buffer Underrun Proof technology, which guarantees that you can write CD-R and CD-RW discs at high speed, and still use your computer for other tasks while you’re writing.

To prevent the interruption of data during writing, every CD-R/RW drive has a buffer, a memory chip that acts as a kind of “holding area.” (Typically, the buffer size is 2 MB or 4 MB.) However, this buffer can be emptied quickly when you write at high speeds, or if you use other applications (like surfing the Internet or playing games or watching movies) while writing.

Buffer Underrun Proof technology compensates for any interruption in data flow to the disc. It “remembers” where writing stopped on the disc when the data flow was interrupted, then restarts writing in the same place once the data is available again. Buffer Underrun Proof technology in your drive means you can safely use your computer for other things while you’re writing to a CD-R or CD-RW disc. It lets you multitask freely and easily, and lets you successfully create CDs on the first attempt.

4. Maintenance and Troubleshooting

This chapter explains maintenance and troubleshooting procedures for your PX-504A drive.

With proper maintenance, you can prevent problems. If trouble arises, you can often solve many simple problems on your own, rather than wait for assistance from a Plextor representative.

Upgrading Firmware

Plextor creates firmware revisions to meet the particular needs of large computer manufacturers. It is rare that these will impact the performance or operation of your drive. However, we advise that our customers always update drives with the latest available firmware. Before troubleshooting a possible problem with your PX-504A drive please visit our web site at www.plextor.com to check if you have the latest firmware.

To obtain new firmware for your drive:

1. Go to the Plextor web site at www.plextor.com.
2. Look for firmware upgrades in the Support area, on the Downloads page. There is a description of the latest firmware revision and its intended use.
3. Download the firmware to your computer.

To upgrade firmware:

1. Run the executable file that you downloaded from Plextor's web site.
2. Accept all defaults by continuing to click on the "Next" button until you see the message:
Firmware update has completed.
3. Restart your system.

Troubleshooting

If you have problems during or right after installation of your drive, visit the Plextor web site to find tips to help find the problem.

This page intentionally left blank.

Appendix A: PX-504A Specifications

Minimum System Requirements

Computer	Pentium III 500 MHz CPU or faster.
Minimum RAM	128 MB
Hard Disk Size	1 GB of free space to write to a CD in image mode, or 6 GB of free space to create DVD images. (For more accurate guidelines, see the help files or documentation for the recording software you're using.)
Operating System	Windows XP, Me, 2000, 98, 98SE

Recommended Media

DVD+R: 4X	Mitsubishi Chemical/Verbatim, Taiyo Yuden, Ricoh
DVD+R: 2.4X	Mitsubishi Chemical/Verbatim, Taiyo Yuden
DVD+RW	Mitsubishi Chemical/Verbatim, Ricoh
CD-R	Mitsubishi Chemical/Verbatim, Taiyo Yuden, Mitsui Chemicals, Ricoh, Maxell
CD-RW	Ricoh, Mitsubishi Chemical/Verbatim (All CD-RW media are rewritable up to 1,000 times.)

Supported Media

Supported Media, DVD Read	Stamped CDs: Single layer / Dual layer DVD-R: For general version 2.0 DVD-RW: Version 1.0 / 1.1 DVD+R: Version 1.0 DVD+RW: Version 1.1
Supported Media, Stamped CD	Red/Yellow Book-compliant discs
Supported Media, CD-R	Orange Book Pt II-compliant discs (Type 74, Type 80)
Supported Media, CD-RW	Orange Book Pt III-compliant discs
Supported Media Size	CD: 12 cm DVD: 12 cm

Usable Formats

Logical CD Read/Write	CD-DA, CD-Extra, CD-ROM Mode-1, CD-ROM Mode-2, CD-ROM XA, Photo-CD, Video-CD, Multi-session, CD TEXT, CD-I, UDF
Logical DVD Read/Write	DVD-ROM DVD-Video Multi-border (closed disc DVD-R/RW read only) Multi-session (DVD+R/RW read/write)
Write Methods, DVD+R/RW	Sequential write, random access write, DAO
Write Methods, CD-R/RW	TAO, DAO, packet write (variable and fixed), multi-session, SAO

Performance Specifications

Read Speed DVD

Speed	Stamp	DVD+R, DVD-R	DVD+RW, DVD-RW
5-12X CAV	Yes (Single-layer disc)	–	–
3-7X CAV	Yes (Single or dual-layer disc)	–	–
2-5X CAV	Yes (Single or dual-layer disc)	Yes	Yes
NOTE: When playing DVD-Video, reading speed is fixed to 2-5x CAV.			

Read Speed, CD

Speed	Mode-1	Mode-2	CD-DA
17-40X CAV	Stamp,R	–	–
13-32X CAV	Stamp,R,RW	–	Stamp,R,RW
4-10X CAV	Stamp,R,RW	–	Stamp,R,RW
8X CLV	–	Stamp,R,RW	–
4X CLV	Stamp,R,RW	Stamp,R,RW	Stamp,R,RW
NOTE: “Stamp” indicates commercially pressed “silver” discs.			
NOTE: When playing CD-DA (digital audio), reading speed is fixed to 4-10X CAV.			

Write Speed, DVD+R/RW

Speed	DVD+R	DVD+RW
4X CLV	Yes	–
2.4X CLV	Yes	Yes
NOTE: 8cm media not supported.		

Performance Specifications (continued)

Write Speed, CD-R/RW

Speed	CD-R	High Speed CD-RW Media	Normal Speed CD- RW Media
16X CLV	Yes	—	—
10X CLV	—	Yes	—
8X CLV	Yes	—	—
4X CLV	Yes	Yes	Yes

Initialization Time

Time measured from power on until disc is available to read:

- DVD: < 16 sec. (typical), < 46 sec. (retry)
- CD: < 14 sec. (typical), < 26 sec. (retry)

Access Time

Time measured from command phase until bus free (no disconnect):

- DVD: < 140 msec. (typical), < 180 msec (max.)
- CD: < 120 msec. (typical), < 150 msec (max.)

Sleep Mode

Entered after 8 minutes of no access to drive

Wake Mode

< 5 sec. (max.) to start drive after sleep

Tray Eject Time

< 5 sec. (max.)

Front Panel

Eject

Eject Button; Manual Emergency Eject; Software Eject.

LED Indicator

Green when ejecting, loading, initializing, playing or writing a disc. Also green when Buffer Underrun-Proof technology is active.

Disc Loading

Auto

Headphone Jack

Stereo mini-jack:

- Output voltage (max. volume): 0.75V (rms) +/-3dB
- Load impedance: 100 ohms
- S/N ratio: Min. 80dB*
- Total harmonic distortion + noise: Max. 0.08% (1kHz)*
- Dynamic range: Min. 75dB (1kHz)*
- Channel separation: Min. 50dB (1kHz)*
- Frequency characteristic: 20Hz to 20kHz (0dB +1/-5dB)*

*Specification not confirmed at time of printing.

Headphone Volume
Control

Wheel knob

Rear Panel**Power Supply**

	DC +12V, +/-10%	DC +5V, +/-5%
Typical standby current	130 mA	55 mA
Typical read current (CD 17-40X)	700 mA	480 mA
Typical DVD write current (DVD+R 4X)	500 mA	530 mA
Typical CD write current (CD-R 16 X)	430 mA	700 mA
Typical pause current (CD 4-10X CAV)	260 mA	940 mA
Peak current	1.4 A	1.1 A

IDE Interface Connector IDE bus, 40-pin flat ribbon type. Interface complies with ATA/ATAPI-5. Maximum total cable length cannot exceed 18 in (45.7 cm).

Analog Audio Output Stereo analog output, Molex connector (L*G*G*R), MPC-3 standard:

- Output voltage (max. volume): 0.75V(rms) +/- 3dB
- Load impedance: 10 k ohms
- S/N ratio: Min. 75dB
- Total harmonic distortion + noise: Max. 0.1% (1kHz)
- Dynamic range: Min. 75dB (1kHz)*
- Channel separation: Min. 70dB (1kHz)*
- Frequency characteristic: 20Hz to 20kHz (0dB +/-3dB)

* Not confirmed at time of printing

Digital Audio Output Digital audio output for input to SPDIF or Digital-In input

Mode Jumper Master (default), slave, cable select (CSEL)

DVD Regional Setting

Compatibility RPC phase-2-compatible

Changing regional setting Max. 5 times

Host Interface

Type	ATA/ATAPI-5-compliant
PIO Transfers	Mode 4
Multiword DMA Transfers	Mode 2
Ultra DMA Transfers	Mode 2 (Ultra DMA33)
ATAPI Command Set	Refer to the Plextor ATAPI command manual.
Inquiry string	PLEXTOR sp DVDR sp sp sp PX-504A sp sp (where "sp" is one space)

Other Features

Data Buffer	2 MB
Error Rate	CD-ROM Mode 1: 1 block/10 ¹² bits CD-ROM Mode 2: 1 block/10 ⁹ bits

Environmental Conditions

Mounting Position	Horizontal or vertical orientation Horizontal orientation: ▪ Front side up or down, +/- 10 degrees ▪ Left side up or down, +/- 5 degrees Vertical orientation: ▪ Front side up or down, +/- 5 degrees ▪ Top side left or right, +/- 2.5 degrees
Operating Temperature	5 to 40 degrees Celsius
Performance Guarantee Temperature	5 to 40 degrees Celsius
Operating Humidity	< 70% max. (non-condensing)
Storage Temperature	–40 to 60 degrees Celsius
Storage Humidity	20% to 90% (non-condensing)
Acoustic Noise	Playing balanced disc: Maximum 45dB Playing unbalanced disc: Maximum 50dB Tray ejecting: Maximum 50dB

Dimensions and Weight

Dimensions (W/H/D)	5.75" x 1.65" x 7.85"
(excluding front panel)	146 mm x 42 mm x 199.5 mm
Weight	< 2.4 lbs. (1.1 kg)

Reliability

MTBF	60,000 hours
Tray Loading	30,000 load/unload cycles

Safety, Laser, and EMC Standards

Country/ Region	Type	Agency	Standard
USA	Safety	UL	UL 1950
	Laser	FDA	FDA 21 CFR 1040.10 and 1040.11
	EMC	FCC	FCC Part15B-Class B
Canada	Safety	CSA	CSA 22.2 No. 950
Europe	Safety	CE	EN60950
	Laser	CE	EN60825-1
	EMC	CE	EN55024, EN50022 Class B
Taiwan	Safety	TUV	
	Safety	NEMKO	EN60950, EN60825-1
	Safety	CB	IEC60950, IEC60825-1
Korea	EMC	BSMI	CNS13438 Class B
Australia/NZ	EMC	MIC	
	EMC	C-Tick	AS/NZS3548 Class B

Appendix B: Technical Support

Store Plextor's e-mail, web site, phone, and fax numbers in a convenient location. Keep your drive's serial number and a copy of your sales receipt handy as well.

If you experience a problem while installing or operating your drive, please refer first to the relevant sections of this manual regarding setup and installation (Chapters 1–3). If you do not uncover the solution there, please refer next to the maintenance and troubleshooting chapter that begins on page 27. You may also wish to refer to the Frequently Asked Questions (FAQ) section of our web site to assist you in troubleshooting the problem on your own.

NOTE: We encourage you to go the Plextor web site (www.plextor.com) before attempting to contact Technical Support. The answers to the most common questions callers ask can be found quickly in the support area. Select PlexHelper for online troubleshooting or FAQs for common questions.

If you have not been successful in your quest, our Technical Support Department will help you solve problems that relate specifically to your PX-504A drive. In many cases, a problem that appears to be caused by your Plextor drive actually originates in another part of your computer. In such instances, our technical support staff will try to help you identify the part at fault and will refer you to the manufacturer of that part for further assistance.

How to Contact Plextor Technical Support

There are several ways for you to contact Plextor's Technical Support Department:

- Visit our web site (www.plextor.com) for answers to Frequently Asked Questions.
- Send us e-mail at support@plextor.com. Include your telephone number and the hours during which you can be reached. Be as detailed as possible in describing your problem. Please include system configuration, hardware and software, as well as versions of drivers used.
- Call 800-886-3935 and select the tech support option.

Before You E-mail/Log On/FAX/Call for Support

Please gather as much of the following information as possible before contacting us.

- The serial number and TLA (top level assembly) number of your PX-504A drive. Your serial number and TLA number appear both on the drive label and on a sticker at the rear of internal drives.
- The latest version of firmware you loaded onto the drive, if applicable.
- The version of the Windows, Mac, or UNIX operating system you are using.
- The brand name and model number of your computer (e.g., Dell 466/NP, Hewlett-Packard Pavilion 752n, Apple Macintosh, etc.).
- The type of VGA, Super VGA, or other graphics board you use.
- Brand name and model number of any other peripherals you have installed or connected to your computer (e.g., CD-ROM, scanner, fax board, network board).

Returns

In the unlikely event that you need to return a drive to Plextor, you need an RMA (Returned Materials Authorization) number. You need this number before any Plextor drive can be returned for repair or replacement. Here's how you get an RMA number and return your drive:

1. Contact Plextor Technical Support. You will receive assistance in troubleshooting your system. If the drive is determined to be defective, you will receive a Tech Support Ticket Number.
2. Locate the RMA request form at:
https://www.plextor.com/english/support/rma_request_form.htm. Complete the form, providing the Technical Support Ticket number and details of the drive failure. After completing the form, click the Submit button.

IMPORTANT NOTE: The RMA form will NOT be processed without the Tech Support Ticket Number.

3. Plextor then returns the RMA form to you via e-mail, with the RMA number and shipping information included.
4. When you receive the RMA number, pack the Plextor drive securely in a box, and include the RMA form as a packing slip.
5. Write the RMA number prominently on the outside of the box, and ship the box and the drive to Plextor.

Contacting Plextor's RMA Department

You can contact our RMA Department and request RMA forms at:

- rmasupport@plextor.com
- Or by fax at 510-651-9765
- Or by calling us at 800-886-3935

Packing Your Drive

Check the drive to make sure there is no disc inside, and if possible, pack your drive in the original box. Some of our customers have not held on to their boxes and have had to resort to less-than-secure methods to get drives back to us.

CAUTION: Never ship the drive with a CD or DVD disc inside it.

If you did not receive a box (for example, your drive came pre-installed in a computer), we recommend you pay a packaging store (such as Mail Boxes Etc.) to ship your drive. If you don't have a packaging store in your area, ask for packaging pointers when you contact us to get an RMA number before returning any drive.

Shipping Your Drive to Plextor

Be sure to write the RMA number on the outside of the shipping box. Any drive sent to Plextor without an RMA number will not be accepted.

NOTE: The RMA number must be clearly visible on the outside of the shipping box.

Drives must be sent postage prepaid. We recommend that you insure your shipment, as Plextor cannot be held responsible for any damage that may occur during shipment.

This page intentionally left blank.

Appendix C: Warranty

PLEXTOR CORP. (“Plextor”) warrants your PX-504A drive against any defect in material and workmanship, under normal use, for a period of one year following its date of purchase. In the event this product is found to be defective within the warranty period, PLEXTOR will, at its option, repair or replace the defective unit.

This warranty is void: a) if the unit is operated or stored under abnormal use and maintenance conditions; b) if the unit is repaired, modified or altered, unless such repair, modification or alteration is expressly authorized in writing by PLEXTOR; c) if the unit is subjected to abuse, neglect, lightning strike, electrical fault, improper packaging, or accident; d) if the unit is installed improperly; or e) if the serial number of the unit is defaced or missing.

PLEXTOR will not, under any circumstances, be liable for direct, special, or consequential damages such as, but not limited to, damage or loss of property or equipment, loss of profits or revenues, cost of replacement goods, or expense or inconvenience caused by service interruptions. Under no circumstances will any person be entitled to any sum greater than the purchase price paid for the unit.

To obtain warranty service, you must contact PLEXTOR’s Technical Support Department by e-mail (support@plextor.com) or by calling 800-886-3935. The Technical Support Department will attempt to diagnose and correct your problem. If the unit does not function properly, they will give you instructions on obtaining a Return Material Authorization (RMA) number. You may be asked to furnish proof of purchase to confirm that the unit is still under warranty.

All product returns must be authorized in advance by PLEXTOR. Authorization is confirmed by issuance of the RMA number, which must be written prominently on the outside of the box in which the defective unit is returned to PLEXTOR.

All drives returned to PLEXTOR must be securely packaged and shipped postage prepaid.

The drive will be returned to the customer at Plextor’s expense when originating within the United States. For a drive originating outside of the United States, the customer is responsible for shipping costs in both directions.

NOTE: Warranty validity is limited to that applicable in the location where the drive was originally purchased.

If You're Outside the U.S. or Canada

Note that the warranty and RMA policy only apply to the United States and Canada. If you are in South America, contact your dealer or reseller for all warranty and RMA claims.

Index

A

access time· 31
analog audio output· 6, 32
 connector· 6, 20, 32
ATAPI command set· 33
ATAPI interface· 2
audio
 analog· 6, 32
 digital· 32
audio cable· 21

B

bay cover panel· 18
black tray· 2
box
 contents of· 4
 shipping· 4, 36, 37
buffer· 2, 13, 26, 33
Buffer Underrun Proof technology· 2, 26
 LED indicator and· 5, 31

C

cable
 audio· 21
 cable select· 16, 17
 IDE· 17, 19
 MPC· 21
 power for drive· 17
 Sound Blaster· 21
 SPDIF· 21
cable connections· 20
cable select· 10, 15, 32
 cable for· 16, 17
 identifying· 16
 master· 16
 setting mode jumper· 11
 slave· 16
CD
 formats supported· 30
 read speed· 30, 31
 recording modes· 2, 30
 write methods· 2, 30
CD+RW

 writing speed· 1
CD-DA
 read speed· 30
CD-R
 compatibility· 2
 media· 23, 29
 reading speed· 1
 writing· 26
 writing speed· 1
CD-R/RW
 software· 7
CD-ROM, playing· 23
CD-RW
 compatibility· 2
 media· 23, 29
 reading speed· 1
 writing· 26
cleaning disc· 25
closing tray· 24
compact disc rewritable high speed logo· 26
compatibility
 CD-R· 2
 CD-RW· 2
 DVD+R· 2
 DVD+RW· 2
computer, minimum· 3, 29
configuration
 CSEL· 15
 minimum· 3, 29
 types of IDE· 10
connection
 digital audio· 32
 sound board and· 21
connector
 analog audio output· 6, 20, 32
 digital audio· 6, 21
 IDE interface· 6, 19, 32
 power· 6, 20, 32
connectors and jumpers, rear-panel· 6, 32
controls, front-panel· 5, 31
cover panel, bay· 18
CSEL signal· 15

D

- data buffer· 2, 13, 26, 33
- digital audio output· 32
 - connector· 6, 21, 32
- Digital-In connector· 6, 21, 32
- dimensions· 34
- disc
 - cleaning· 25
 - labels· 24
 - loading· 31
- DMA support· 2, 33
- drive
 - installing· 16
 - recognizing in Windows· 22
- DVD
 - formats supported· 2, 30
 - media· 23, 29
 - playing· 25
 - read speed· 30
 - reading speed· 1
 - recording modes· 2, 30
 - region code· 25
 - regional setting· 32
 - video read speed· 30
 - write methods· 2, 30
- DVD+R
 - compatibility· 2
 - media· 23, 29
 - software· 7
 - writing· 26
 - writing speed· 1
- DVD+RW
 - compatibility· 2
 - editing· 2
 - media· 23, 29
 - software· 7
 - writing· 26
- DVD+VR· 1, 2
- DVD-R, DVD-RW
 - drive capabilities· 23

E

- editing DVD+RW· 2
- eject
 - methods for· 31
 - time· 31
- eject button· 5
 - closing tray· 24
- EMC standards· 34
- emergency eject hole· 5

- emergency eject tool· 5
- environmental conditions· 33
- error rate specification· 33

F

- firmware
 - obtaining· 27
 - upgrading· 2, 27
- flash memory· 2
- formats· 30
 - CD· 30
 - DVD· 2, 30
- front-panel controls· 5, 31

H

- hard disk size· 3, 29
- headphone jack· 5, 31
- headphone volume control· 31
- high speed CD-RW media· 26
- high-speed CD-RW media· 23
- host interface· 33
- humidity
 - storage· 33
- humidity specification· 33

I

- IDE configuration
 - determining· 10
 - examples· 13
 - selecting· 12
- IDE interface connector· 6, 19, 32
- IDE ribbon cable· 17
 - cable select· 17
 - connecting· 19
 - standard· 17
- initialization time· 31
- inquiry string· 33
- installation· 9, 16
 - quickstart· 9

J

- jumper
 - mode· 6, 11, 32

L

label, disc· 24
 laser standards· 34
 LED indicator· 5, 31
 Buffer Underrun Proof technology and
 · 31
 color· 31
 lossless linking· 2

M

maintenance· 27
 master· 10, 32
 cable select· 16
 setting drive as· 11
 setting in BIOS· 22
 setting mode jumper· 11
 media· 23
 care and handling· 24
 CD-R· 23, 29
 CD-RW· 23, 29
 DVD· 23, 29
 DVD+RW· 23, 29
 recommended· 29
 size· 29
 supported· 2, 29
 memory, minimum· 3, 29
 minimum configuration· 3, 29
 MMC-3 command set· 2
 mode jumper· 6, 32
 setting· 11, 12
 mounting position· 16, 33
 mounting rails· 18, 19
 MPC-compliant audio cable· 21
 MTBF· 34

N

noise specification· 33

O

OPC· See optimum power control
 opening the computer· 9
 operating system· 3, 29
 optimum power control· 2
 orange book· 2, 29

P

packing for shipment· 37
 performance specifications· 30, 31
 PIO support· 2, 33
 playing DVD· 25
 plug and play, support for· 2
 position, mounting· 16, 33
 power cable· 17
 connecting· 20
 power connector· 6, 20, 32
 power requirements· 32
 precautions· 7
 primary IDE port· 10

Q

quickstart installation· 9

R

rails· 18, 19
 RAM, minimum· 3, 29
 read formats· 2
 read specification
 CD· 30, 31
 DVD· 30
 read speed
 CD-R· 1
 CD-RW· 1
 digital audio· 30
 DVD· 1
 DVD-Video· 30
 rear-panel connectors and jumpers· 6, 32
 recognizing the drive in Windows· 22
 recording modes
 CD· 2, 30
 DVD· 2, 30
 red book· 29
 region code· 25
 changing· 25
 reliability· 34
 returns· 4, 36
 RMA number· 4, 36, 37
 ROPC· See running optimum power
 control
 running optimum power control· 2

S

- safety standards· 34
- screws, mounting· 21
- secondary IDE port· 10
- security sticker· 4
- selecting an IDE configuration· 12
- serial number, recording· 16
- shipping your drive· 4, 36, 37
- slave· 10, 32
 - cable select· 16
 - setting drive as· 11
 - setting in BIOS· 22
 - setting mode jumper· 11
- sleep mode· 31
- software· 7
 - CD-R/RW· 7
 - DVD+R· 7
 - DVD+RW· 7
- Sony/Philips digital interface· *See* SPDIF
- Sound Blaster-compliant audio cable· 21
- sound board, connections to· 21
- SPDIF cable· 21
- SPDIF connector· 6, 21, 32
- specifications· 29
- speed
 - reading CD-R· 1
 - reading CD-ROM· 30, 31
 - reading CD-RW· 1
 - reading digital audio· 30
 - reading DVD· 1, 30
 - reading DVD-Video· 30
 - writing· 13
 - writing CD-R· 1
 - writing DVD+R· 1
 - writing DVD+RW· 1
- stereo output signal· 6, 32
- support· 35

T

- tech support ticket number· 36
- technical support· 35
- temperature
 - performance guarantee· 33
 - specification· 33
 - storage· 33

- ticket number, tech support· 36
- TLA code· 16
- tray
 - closing· 24
 - front door· 5
 - loading and unloading· 24
- tray loading
 - specification· 34

U

- UDF support· 2
- ultra DMA support· 2, 33
- upgrading firmware· 2, 27

V

- video DVD
 - read speed· 30
- volume control· 5, 31
 - no effect on rear panel output· 5

W

- wake mode· 31
- warranty· 39
- weight· 34
- write formats· 2
- write methods
 - CD· 2, 30
 - DVD· 2, 30
- writing a CD
 - image· 3, 29
 - limitations on speed· 13
- writing speed
 - CD+RW· 1
 - CD-R· 1
 - DVD+R· 1
- writing to CD-R· 26
- writing to CD-RW· 26
- writing to DVD+R· 26
- writing to DVD+RW· 26

Y

- yellow book· 29

Notes

PLEXTOR CORP.
48383 Fremont Blvd.
Suite 120
Fremont CA 94538-6509

Phone: **510-440-2000**
 800-886-3935
Fax: 510-651-9755

E-mail: info@plextor.com

www.plextor.com